



VERIFICATION OF TRANSLATION

I, Shinji Matsumoto declare as follows:

1. That I am well acquainted with both the English and Japanese languages, and
2. That the attached document is a true and correct translation made by me to the best of my knowledge and belief of the following Japanese patent application:

Japanese Patent Application No. 2001-046950 filed February 22, 2001.

3. The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

May 21, 2004

Date

SHINJI MATSUMOTO

Print Name of Translator

S. Matsumoto

Signature of Translator



Partial English Translation relevant to Example 11 in Japanese
Patent Application No. 2001-046950

Title of the invention: COLOR TONER, METHOD OF PRODUCING THE
COLOR TONER AND IMAGE FORMING METHOD

Applicant: Ricoh Company, Ltd.

Filing Date: February 22, 2001

Hereinafter, the present invention will be more specifically explained, referring to examples. However, the present invention is not limited thereto. Parts in the examples represent parts by weight.

[Manufacturing Examples of Master Batch Pigment]

Manufacturing Example 1

The following materials were mixed by a Henshel Mixer and kneaded by a two-roll kneader for 45 min, in which the surface temperature of the rolls was 130 °C to prepare a master batch pigment A.

Binder resin: Polyester resin A 50

(a polyester resin formed from adducts of bisphenol A with ethylene oxides, terephthalic acid and fumaric acid, having a softening point of 95 °C)

Colorant: Quinacridone magenta pigment 50

(C.I. Pigment Red 122)

Water 30

Manufacturing Example 2

The following materials were mixed by a Henshel Mixer and kneaded by a two-roll kneader for 45 min, in which the surface temperature of the rolls was 130 °C to prepare a master batch pigment B.

Binder resin: Polyol resin A 50

(a polyol resin formed from low molecular weight bisphenol A type epoxy resin, polymer bisphenol A type epoxy resin, bisphenol A type glycidylated adducts with ethylene oxides, bisphenol F and p-cumylphenol, having a softening point of 97 °C)

Colorant: Quinacridone magenta pigment 50

(C.I. Pigment Red 122)

Water 30

Example 1

The following materials were mixed with a Henshel mixer and kneaded upon application of heat by a biaxial kneader in which the temperature was set at 110 °C. The mixture was cooled by water and crushed by a cutter mill, and pulverized by a pulverizer using a jet stream to prepare a mother toner using a wind classifier.

Binder resin: Polyester resin A 93

(a polyester resin formed from adducts of bisphenol A with ethylene oxides, terephthalic acid and fumaric acid, having a softening point of 95 °C)

Colorant: Master batch pigment A 14

Release agent: Carnauba wax	5
(melting point: 92 °C and Mw/Mn: 1.1)	
Charge controlling agent: Zinc salt of	2.5
salicylic acid derivatives	

Further, the following materials were mixed by a Henshel Mixer for 300 sec, in which the end peripheral velocity of the mixing blade was set at 20 m/sec, and then the mixture was wind sieved with a sieve having an opening of 100 µm to prepare the toner of the present invention.

The above-mentioned mother toner	100
Additives: Titania	0.8

(surface-treated with isobutyltrimethoxy silane having an average primary particle diameter of 0.02 µm)

Silica	0.6
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(surface-treated with hexamethyldisilazane having an average primary particle diameter of 0.016 µm)

Example 2

The procedure for preparation of the toner of Example 1 was repeated except that the binder resin was changed to the polyol resin A (used in Manufacturing Example 2) and the colorant was changed to the master batch pigment B (Manufacturing Example 2) to prepare a toner.

Example 11

The procedure for preparation of the toner of Example 2 was repeated except that the titania as the additive was changed

to a surface-treated titania with isobutyltrimethoxy silane having an average primary particle diameter of 0.05 μm to prepare a toner.